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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,778	06/19/2001	Richard R. Hall	END920000187US1	2338

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EXAMINER

VU, QUYNH NHU H

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

P.S.

Office Action Summary

Application No.

09/884,778

Applicant(s)

HALL ET AL.

Examiner

Quynh-Nhu H. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-20, 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-24 and 27-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-20, 25-26, drawn to a method of making a conductive path in laminate structure, classified in class 29, subclass 825.
 - II. Claims 27-32, drawn to a structure of a conductive path, classified in class 174, subclass 262.

If Group II elects, claims 21-24 will examine with claims 27-32.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product can be made without need step of deforming the conductive element (claims 1, 14); also the product can be made without need step of bonding each laminate together; adjoining contact pads press together (claim 25).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Lawrence R. Fraley on 11/14/01 a provisional election was made traverse to prosecute the invention of Group II, claims 21-21 and 27-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-

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20 and 25-26 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 27 and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Higgins, III [US 4,967,314].

As to claims 27, Higgins discloses in Fig. 2 a structure comprising a conductive element (40) into a laminate (12, 20).

As to claim 29, Higgins discloses an opening is a hole in the laminate.

As to claim 30, the conductive element (40) is a cylinder shape.

As to claims 31, the conductive element (40) is consisting of copper (col. 5, line 30).

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8. Claims 27, 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Reimann [US 4,663,497].

As to claims 27, Reimann discloses in Figs. 1-12 a structure comprising a conductive element (38) into a laminate (22).

As to claim 29, an opening is a hole in the laminate.

As to claim 30, the conductive element (38) is a cylinder shape.

As to claim 31, the conductive element (38) is selected from the group of copper.

As to claim 32, the laminated is selected from the group of epoxy (col. 3, lines 38-40).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 21-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins or Reimann.

As to claim 21, Higgins or Reimann does not disclose insert the conductive element by pressing method. However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to using pressing method to insert the conductive element into the hole in order to compact the conductive element.

As to claims 22 and 24, see rejections of claims 29-30 above.

As to claim 23, Higgins or Reimann disclose all claimed subject matter except for the conductive element having a sphere shape. It would have been obvious matter of design choice to employ the sphere shape, since applicant has not disclosed that sphere shape solves

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any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the cylinder shape.

As to claim 27, the product-by-process limitation "pressed into" has not been given weight in determining the patentability of the device claim. See MPEP §2113.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arndt [US 3,601,523], Nagashima et al. [US 4,328,531] and Hayakawa et al. [US 4,383,363] disclose a conductive element inserted into a laminate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh-Nhu H. Vu whose telephone number is 703-305-0850. The examiner can normally be reached on 7:30-5:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

QNV
November 14, 2001

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A handwritten signature in black ink, consisting of stylized, cursive letters that appear to read "J. H. [unclear]".